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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/043,394	01/10/2002	Gerrit Klaerner	SMX 3093.6 (2001-006R1)	4664
321	7590	09/19/2005	EXAMINER	
SENNIGER POWERS LEAVITT AND ROEDEL ONE METROPOLITAN SQUARE 16TH FLOOR ST LOUIS, MO 63102			CEPERLEY, MARY	
			ART UNIT	PAPER NUMBER
			1641	

DATE MAILED: 09/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/043,394

Applicant(s)

KLAERNER ET AL.

Examiner

Mary (Molly) E. Ceperley

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1641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 49-62, 64-69 and 102-110 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 49-62, 64-69 and 102-110 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/12/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

8.20.05

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1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 49-~~69~~^{62, 64-69} and 102-110 are again rejected under 35 U.S.C. 102(e) as being anticipated by Wagner et al (US 6,475,808) for the reasons set forth in paragraph 9) of the January 12, 2005 Office action.

3. Applicant's arguments filed May 12, 2005 have been fully considered but they are not persuasive.

With regard to applicant's statement that there are no working examples in Wagner et al which describe the polymer brushes recited in the claims of this application, applicant is advised that the disclosure of a prior art document is not limited to its working examples. In this case, the claims *per se* describe/anticipate the claims of the instant invention. See also the description of the subject matter of this patent in the HCAPLUS abstract 2002: 845515 cited in paragraph 5. below and on form PTO-~~1449~~⁸⁹².

With regard to applicant's statement that Wagner et al "make no reference to the importance of stability of the covalent bonds, which attached the hydrophobic polymer chains to the substrate surface, against hydrolyzing conditions" (Remarks, page 12, last paragraph), it is noted that independent claim 49 of this application requires only that the "hydrophobic layer" be "attached to the substrate surface". There is no requirement for any covalent bonding in claim 49 and thus there is no distinction, in fact, between the compositions of Wagner et al and those of the claims of this application.

With regard to the argument that the Office has failed to meet the burden of establishing that the thickness and hydrolysis features of claims 49 and 102 are inherent in the product of Wagner et al, applicant's attention is directed to the discussion of MPEP 2113. Similar to the case of product-by-process claims, since the product of the instant claims has been found to be substantially identical to the product of Wagner et al the burden shifts to applicant to show an unobvious difference. The Office is not equipped to manufacture products and make physical comparisons therewith.

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4. Claims 49-~~69~~^{62, 64-69} and 102-110 are rejected under 35 U.S.C. 102(e)/103 as being anticipated by or obvious over each of Klaerner et al US 2002/0001845 ('845) or Klaerner et al US 6,833,276 ('276).

The references each describe a polymer brush comprised of a substrate to which is attached a hydrophobic polymer upon which a functionalized hydrophilic polymer is layered. These compositions anticipate the polymer brushes of the instant claims. See Klaerner et al ('276): col. 4, line 59 - col. 5, line 3; col. 11, lines 14-16; for the dry thickness limitations of claims 49-52, see col. 8, lines 17 - 29; Klaerner et al ('845): paragraphs [0028], section (i) of [0062]; for the dry thickness limitations of claims 49-52, see paragraph [0129].

The features of the dependent claims are either inherent in the products of the Klaerner et al references or constitute obvious variations in parameters which are routinely modified in the art and which have not been described as critical to the practice of the invention. For example, for the choice of well known biological molecules which are members of a specific binding pair (instant claim 67) see Klaerner et al ('845), paragraphs [0131] - [0148]; for the functional groups of instant claim 68, see Klaerner et al ('845), paragraphs [0133] and [0162]; for the water-soluble or water-dispersible polymer chain segments of instant claim 56, see Klaerner et al ('845), paragraph [0127].

5. The following reference abstracts the subject matter of Wagner et al (US 6,475,808): HCAPLUS abstract 2002: 845515 describing the arrays of Wagner et al as "a substrate, an ordered hydrophobic polymer monolayer chemisorbed or physisorbed to the surface, a hydrophilic polymer monolayer, and protein-immobilizing groups covalently attached to a selected fraction of the hydrophilic chains".

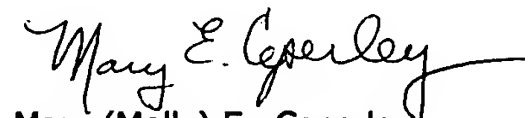
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary (Molly) E. Ceperley whose telephone number is (571) 272-0813. The examiner can normally be reached on 7:30 a.m. - 4:00 p.m..

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7. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long V. Le can be reached on (571) 272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

September 01, 2005


Mary (Molly) E. Ceperley
Primary Examiner
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